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MRSA – A 2 step eradication protocol in a Regional Paediatric Centre in Northern Ireland

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Introduction 220 patients attend the Regional Paediatric Centre in Belfast. Prior to 1999 only one of these patient cultured Methicillin Resistant Staphylococcus Aureus (MRSA) in his sputum.
In our centre from January 1999-January 2004 all children were investigated through routine sputum cultures for MRSA and a further 19 patients were identified with positive cultures. We report on the management of these patients, which has successfully eradicated MRSA in 16 out of the 19 patients.
Methods 1. Sputum obtained at 3 monthly routine clinic visit
2. Positive sputum – CF Community Nurse visited and carried out multi-site swabs (nostrils x 2 , perineum, open wounds and sputum)
3. **Step 1** Treatment initiated at home by CF Nurse
- Topical Mupirocin 2% x 5 days BD
- Fucidic Acid 50 mg/kg/daily x 5 days
- Rifampicin 20-40mg/kg/daily x 5 days
- Triclosan 2% for washing
- Personal hygiene advice

4. Repeat swabs carried out 1 week post treatment and 3 monthly thereafter.
5. Treatment repeated if further positive culture
6. Following 3rd positive culture move to **step 2**
- Intravenous Teicoplanin 10-15mg/kg/daily – 12 hourly x 3
- Intravenous Teicoplanin 10-15mg/kg/daily – once daily (serum levels day 4) total 14 days

7. All patients attend separate clinic and admission if necessary to isolation ward until 1 year free of MRSA
Results 19 patients – 14 males and 5 females; 6/19 sputum and nasal positive; 12/19 sputum positive; 1/19 sputum, nasal and perineum positive; 9 patients cleared following 1 course of oral treatment; 4 patients cleared following 2 courses of oral treatment; 3 patients required Step 2 of the protocol to clear; 2 patient were not cleared on transfer to another unit; 1 patient remains colonized.
Conclusion Treatment as described has successfully eradicated MRSA from 16/19 patients.

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Cystic Fibrosis parents support new cohort groups to prevent cross infection

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Children with Cystic Fibrosis (CF) may become chronically infected with pathogens acquired from the environment or through person-to-person transmission. Recent consensus statements provide recommendations to minimize cross infection. We developed a CF infection control guideline and cohorted our clinic into five different coloured groups, (Pseudomonas (Ps) positive, Ps negative, Ps mutiresistant, MRSA, and Stenotrophomonas) according to results of three sputum cultures/bronchoalveolar lavage specimens obtained over the previous six months. Aims: To assess parent attitudes to cohorting one year after its introduction. Methods: A parent education night and an information package was provided to inform parents of the new cohort groups and reasons for this. Parent attitudes regarding the change were assessed by anonymous questionnaire 12 months after the intervention. 74 of 120 families (62%) replied. All responses were positive, 80% "strongly agreeing" with the need for cohorting and 20% "agreeing". Perceived benefits were reduced cross infection and improved efficiency of clinics. 86% of families found the adjustment "not difficult". 14% found the change "slightly difficult". Reasons primarily were due to the emotional effects of isolation particularly amongst adolescent patients, reduced flexibility in appointments and two families were concerned about possible stigmatisation. Conclusion: CF families in our clinic understand and overwhelmingly support cohorting to minimize cross infection.

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Complementary Therapy: Use by patients attending the CF Clinic

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This small subjective study looks at the use of complementary therapy (CT) by patients attending the cystic fibrosis clinic in Aberdeen. 42 questionnaires (Q) were sent asking whether patients had used any CT, and if so, whether they had found it helpful. The term CT was explained as "alternative treatments eg aromatherapy, homeopathy, acupuncture etc."
22 Qs were returned (52%). 6 patients had tried some form of CT. 4 patients had tried homeopathy, 2 had tried aromatherapy and 3 had tried acupuncture, reflexology and reiki. 5 of these therapies had been financed privately, one by the NHS and one by other means. 5 of the 6 patients used fully qualified registered practitioners. One patient continues to use homeopathy.
Comments on effectiveness of CT: "difficult to say but occasionally appeared to prevent infection"; "brilliant – cured headaches, stomach aches etc."; "I didn't feel any benefit"; "very effective most of the time-always gave some benefit"; "very relaxing but I suppose you would have to do it on a regular basis to comment fully"; "failed to bring back sense of smell but good for pain relief".
8 of 22 patients said they would be willing to try CT alongside conventional treatment, 5 said "maybe", and 2 said "no". 15 patients thought treatment should be financed by the NHS.
Comments on the financing of CT included: "it should be assessed as to how much benefit it gives the patient-a marked improvement should lead to NHS funding"; "I do not believe that funds should be drawn away from existing research and treatments"; "NHS, if the patient could prove they would benefit from it".
In conclusion, it would appear that this appears to be a topic of interest to patients. CF patients use CT and this should be taken into account when discussion treatment options. Further studies need to be undertaken in this field.

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Home-used nebulisers: maintenance practices

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Aim: survey on nebuliser use in our CF clinic: type of nebuliser, the functional and hygienic state of the apparatus and the cleaning method used at home.
Methods: We asked patients to bring their nebulisers in during a routine clinic or hospitalization. The following parts were checked: the outside of the nebuliser, the inside filter, the air tube, drug reservoir and mouthpiece. A pressure check was performed for the mechanic nebulisers. Patients were interviewed about their cleaning routine of the nebuliser and its parts.
Results: 48 nebulisers were checked from 40 patients: 47 mechanic and 1 ultrasonic device. 44 mechanic nebulisers worked on electric power (39 Pari Boy/Turbo Boy and 5 Porta-Neb) and 3 nebulisers were portable with batteries (2 Pari Universals, 1Impec Mobilair). 16 patients used more than 1 apparatus at home but only 7 of them brought both nebulisers in for the check.
15/48 nebulisers were dirty on the outside and some were sticky; 26/48 nebulisers had a dirty filter; 6 air tubes were dirty inside; 10 drug reservoirs were damp and 2 were dirty; 3 mechanic nebulisers had an insufficient pressure 2 drug reservoirs had an insufficient pressure. A total of 10 different cleaning methods were reported (e.g. from "carefully drying every part" to "no cleaning at all ?",4 medication cups had to be disposed of because they were too dirty. Only 5 devices were in "top condition".
Conclusions: Most patients use mechanic devices. Although all patients receive initial instruction on nebuliser use and maintenance, the majority of nebulisers (43/48) were no longer suitable for further use because of hygienic or technical reasons and most patients were advised to either change certain parts like filter, air tubes, medication cups. The results call for an annual check-up and regular information about maintenance of the nebuliser.